

MICROFABRICATED LINEAR ACCELEROMETER

Abstract of the Disclosure

A linear accelerometer is provided having a substrate, a fixed electrode supported on the substrate and including a first plurality of fixed capacitive plates, and an inertial mass substantially suspended over a cavity and including a plurality of movable capacitive plates arranged to provide a capacitive coupling with the first plurality of fixed capacitive plates. The inertial mass is linearly movable relative to the fixed electrode. A central member is fixed to the substrate. Support arms support the inertial mass relative to the fixed electrode and allow linear movement of the inertial mass upon experiencing a linear acceleration along a sensing axis, and prevent linear movement along a nonsensing axis. Inputs and output lines are electrically coupled to the fixed electrode and the inertial mass. An output signal is generated which varies as a function of the capacitive coupling and is indicative of linear acceleration along the sensing axis.

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